PATENT SPECIFICATION

Application Date: Feb. 1, 1926. No. 2853/26. 265,005

Complete Accepted: Feb. 3, 1927.

COMPLETE SPECIFICATION.

Improvements in Art of Manufacturing Fountain Pen Caps and Barrels.

I, MARX FINSTONE, a citizen of the United States of America, of 42, East Houston Street, in the City, County and State of New York, United States of America, Manufacturer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to the art of manufacturing fountain pen barrels and caps and in particular to a method of forming the parts from flat stock.

A particular object of the invention is to make a barrel or cap from a flat piece of stock by rolling or forming the same and fusing the edges thereof together with an acetone cement whereby the finished product will not show any joining seams.

A further object is to make up a barrel or cap of a strip of material wound spirally around a mandrel and joined by cement at the meeting edges to provide a completed barrel or cap.

A further object of the invention is to make up the barrel or cap member from a flat piece of mottled or marbled pyroxylin or celluloid thus doing away with casting molds, and other accessories necessary heretofore in the casting of barrels and caps which were unsatisfactory and left the exterior of the barrel or cap in roughened condition thereby necessitating turning and polishing. In my present method of construction no polishing or turning is necessary as the finished stock is turned around a mandrel and when joined completes the finished product.

Referring to the drawing wherein I have shown embodiments of my invention:—

Figure 1 is a top plan view of a piece of stock used in the manufacture of the pen barrels and caps.

Figure 2 is an end edge view of the piece of stock as shown in Figure 1.

Figure 3 is an end view of the barrel or cap stock as formed around a mandrel.

Figure 4 is a view in elevation of a cap having an end closure thereon and as it would appear after being finished, the joining seam being exaggerated for the purpose of illustration,

Figure 5 is a view in perspective of the top piece which is used to close one end of the barrel or cap.

Figure 6 is a view in elevation of a barrel or cap made up from a spirally twisted piece of flat stock having an end cover thereon.

Figure 7 is an enlarged section on the line 7—7 of Figure 6.

Figure 8 is a view in perspective showing a half portion of the pen barrel or cap made by pressure in a forming die.

Figure 9 is a section on the line 9—9 of Figure 8, and

Figure 10 is a view in perspective of the two halves of a pen barrel or cap as made up, one of the halves being shown in Figures 8 and 9.

Referring to the drawing in detail 5 indicates a flat piece of stock, the same composed of marbled or mottled, or plain pyroxylin or celluloid which is trimmed along its meeting edges to form bevels 6.

In the method of making up a barrel or cap the following steps are observed. First the stock 5, of any desired thickness is trimmed down to size so that when rolled into position it will be the correct diameter and length. The edges are then beveled, the trimming and bevelling being done while the stock is cold.

The stock is then heated and placed around a mandrel 7 as shown in outline in Figure 3 and the bevelled edges when brought together are joined by fushion caused by using an acetone-containing cement under high pressure, the acetone acting under heat and pressure to dissolve the stock at its meeting edges to fuse the same together without marring it or destroying its smooth finish. In all forms hereinafter described the fusing

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method of attaching the parts or edges together is carried out by the use of the particular stock-like cement having compounded therewith acetone, which under heat fuses the stock and cement to thereby securely fasten the same together. A suitable cement, for example, is composed of a pure transparent celluloid base with acetone.

After the cylindrically formed stock is completed a top or end piece 8 is cemented or fused thereon and the barrel or cap is completed and ready for screw-threading or other operations necessary to its completion, as shown in Figure 4.

If desired a long strip 9 may be used having its edges beveled and the same wound around a mandrel spirally as at 10 and the edges thereof cemented or fused as described, after which an end piece 11 is placed thereon. In Figure 7 the contacting or fused edges of the stock are shown.

Another method of making up a barrel or cap is shown in Figures 8, 9 and 10 in which 12 represents one half of the barrel or cap which is made in a forming die under heat and pressure, the end closure 13 being formed by the stamping process so that when two halves so formed are joined at their edges as at 14 by fusing, the pen barrel or cap is completed. If desired the halves may be square or any desired shape in cross section to provide a novel pen. Further with my fusing method I can make up a pen body and cap the cross section of which will be hexagonal or pentagonal in shape, the panels making up the sides of the article being joined by fusing to make the completed product.

It will be evident that I have provided a new and inexpensive method of making up pen barrels and caps of pyroxylin or celluloid by forming the body out of one or more pieces of stock and fusing the same together whereby time and money are saved in manufacture with a resulting benefit to the consumer.

My improved method enables one to make fountain pen barrels and caps out of the mottled or marbled pyroxylin. While it is possible to draw out a tube of non colored or non mottled pyroxylin, it is impossible to draw out a tube of the marbled pyroxylin, because the drawing out process destroys the color effect. The only way therefore to make up this kind of a barrel is to drill the same out of solid stock, thereby entailing great waste. My improved method therefore does away with the waste and reduces the manufacturing cost.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A method of manufacturing fountain pen barrels or caps of pyroxylin, or celluloid, which consists in forming one or more pieces and fusing the edges of the pieces together.

2. A method according to Claim 1, characterized by the edges being fused together with an acetone cement.

3. A method according to Claims 1 and 2, which consists in trimming a piece of flat stock to size, heating the same and forming it around a mandrel and then joining the meeting edges thereof by fusion under high pressure.

4. A method according to Claim 1 which consists in spirally winding a piece of flat stock around a mandrel and cementing the meeting edges together.

5. A method according to Claim 3 or or 4, including the step of cementing an end on said piece.

6. A method according to Claim 3 or 4, including the step of bevelling the opposite or meeting edges of the piece of flat stock before forming it around said mandrel.

7. A method according to Claim 1, which consists in forming pieces of pyroxylin stock in dies to constitute halves of a barrel or cap and fusing the edges of said halves together.

8. A fountain pen barrel or cap composed of mottled or marbled pyroxylin, or celluloid comprising a cylindrically formed piece of stock, the meeting edges of which are fused together.

9. A fountain pen barrel or cap according to Claim 8, including a spirally wound strip, the meeting edges of which are cemented together.

10. A fountain pen barrel or cap according to Claim 8 or 9, including beveled meeting edges on said piece of stock which edges are joined by fusing with an acetone cement.

11. A fountain pen barrel or cap according to Claim 8 or 9, including an end cemented on said piece.

12. A fountain pen barrel or cap according to Claim 8, including two pieces of stock formed in dies to constitute halves of a barrel or cap, the meeting edges of which halves are fused together.

Dated this 1st day of February, 1926.

F. W. GOLBY,
Patent Agent,
3, John Street, Bedford Row, London, W.C. 1,
Agent for the Applicant.

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[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1.

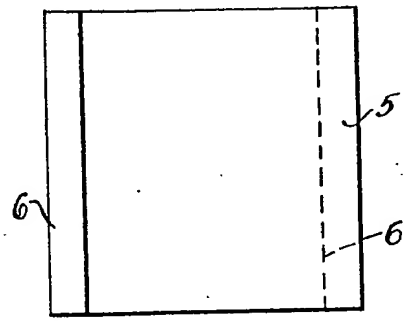


Fig. 2.

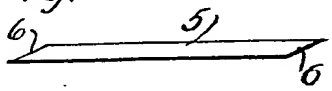
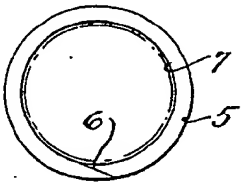


Fig. 3.



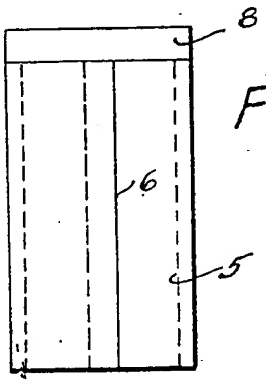


Fig. 4.

Fig. 5.

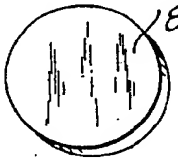


Fig. 6.

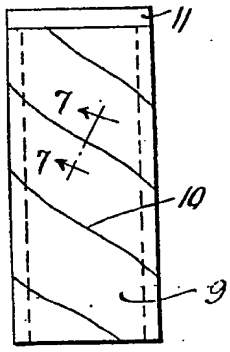
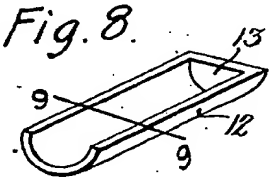


Fig. 7.

Fig. 8.



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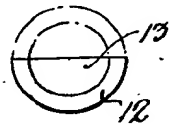

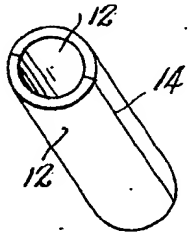

Fig. 10.

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[This Drawing is a reproduction of the Original on a reduced scale]

Fig. 1.

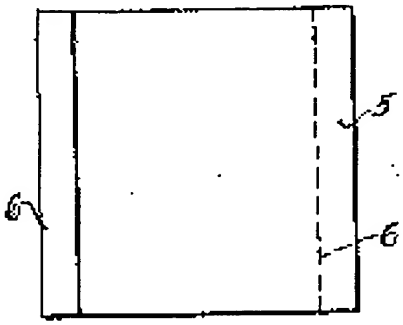
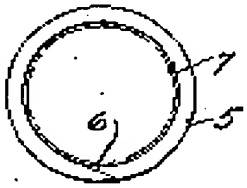


Fig. 2.

Fig. 3.



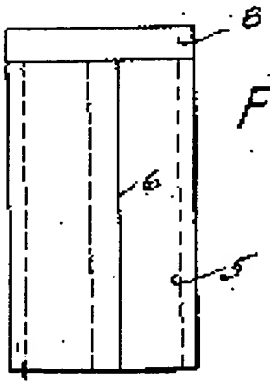


Fig. 4.

Fig. 5.

Fig. 6.

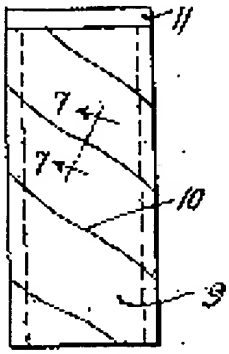


Fig. 7.

Fig. 8.

Fig. 9.

Fig. 10.

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